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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,829	08/01/2001	Masahiro Uekawa	2001-1018A	4417

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WASHINGTON, DC 20006-1021

EXAMINER

DUVERNE, JEAN F

ART UNIT	PAPER NUMBER
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2839

DATE MAILED: 01/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/918,829

Applicant(s)

UEKAWA ET AL.

Examiner

Jean F. Duverne

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-26, 28, 29 and 31-36 is/are rejected.
- 7) ☒ Claim(s) 27 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

1. The examiner has decided to reissue the final office action to include claims 33-36 included in responses to last office action.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 17, 19-24, 26, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332).

Pimpinella's device discloses an optical device an optical device (figs. 1-2) including optical substrate (11), a lens element (20) formed on the substrate, a supporting substrate or coupler (22) having grooved surface with groove (24, or 27, 28) formed therein, wherein the optical substrate having projecting part at 31, 32 resting into the groove (27, 28) formed on the supporting substrate as to align the lens element with the optical element, the projecting part extending perpendicularly from the surface and having a circular cross section, the groove with the v-shape extending to side (fig. 1). However, Pimpinella's device fails to place the projection part into the groove surface, a third groove comprising an optical fiber. It would have been obvious to one having ordinary skill in the art at the time the invention was made place groove to receive the projecting part at the projection surface instead of the groove surface to align the lens

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element, since it has been held that rearranging of parts of an invention involves only routine skill in the art. In re Japike, 86 USPQ 8.

Claims 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332).

3. Pimpinella's device discloses the aforementioned limitations, but fails to explicitly disclose the lens element or the projecting part is integrally formed in one piece with the substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have lens element or the projecting part is integrally formed in one piece with the substrate instead of being separate, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. Howard v. Detroit Stone Works, 150 U.S. 164 (1983).

4. Claims 18, 25, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332) in view of Tabuchi (US patent 5,481,629).

In regard to claim 18, Pimpinella's device discloses the aforementioned limitations, but fails to explicitly disclose the use of the photolithography. Tabuchi's device discloses the substrate with the grooves and fiber using the photolithography (see col. 4). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the photolithography features such as the one taught in Tabuchi's structure for improving the projection features in Pimpinella's device.

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In regard to claims 25,31, Pimpinella's device discloses the aforementioned limitations, but fails to explicitly disclose the etching process with anisotropic etchant using silicon or other similar material commonly used, and the silicon substrate formed in a one piece unit. Tabuchi's device discloses the etching process with anisotropic etchant using silicon (see col. 4). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the etching process with anisotropic etchant such as the one taught in Tabuchi's structure to meet system design and requirement.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332) in view of Tabuchi (US patent 5,481,629) as applied to claims 18, 25, 31 above, and further in view of Ham (US patent US005543255A) .

Pimpinella's and Tabuchi's structures discloses the aforementioned, but fails to explicitly disclose the use of the quartz substrate. Ham's device discloses the use of the quartz substrate (11). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the quartz substrate such as the one taught in Ham's structure to meet system design and requirement.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332) in view of Tabuchi (US patent 5,481,629) as applied to claims 18, 25, 31 above, and further in view of Matsumura et al (US patent 5,625,493).

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Pimpinella's and Tabuchi's structures disclose the aforementioned, but fails to explicitly disclose the use of the lens comprising hologram. Matsumura's device discloses the use of the lens comprising hologram. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the lens comprising hologram such as the one disclose in Matsumura's system for improving the diffracting system in Pimpinella's device.

Response to Amendment

Applicant's arguments filed 9/22/2002 have been fully considered but they are not persuasive. The claims do not define "structural structure features" that distinguish over prior art: For instance, the groove is clearly shown at 24 and explicitly recited in Pimpinella's device (see col. 3), the substates 10, 12 having an elongated groove to hold the fiber (16) and mate with the coupler (22) which also having an elongated groove to receive the fiber. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Allowable Subject Matter

5. Claims 27 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art fails to disclose the formation of the optical device by coating the polymer substrate with photosensitive resin layer to light through the exposure mask to cure the exposed portion of the resin layer and remove uncured portion of the resin layer to form the groove with the rest of the claims limitations.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Duverne whose telephone number is (703) 305 - 0297 . The examiner can normally be reached from 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild, can be reached on (703)308-2710. The fax phone number for this Group is (703) 308 - 7722.

Any inquiry of a general nature or relating to the status of this application or proceeding

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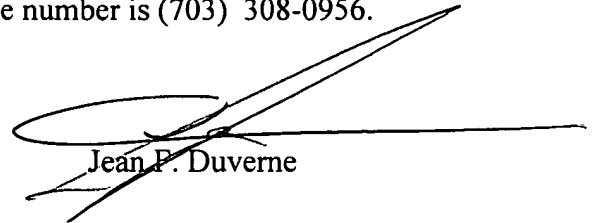
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should be directed to the Group receptionist whose telephone number is (703) 308-0956.

JFD

January 4, 2004

A handwritten signature in black ink, appearing to read "Jean P. Duverne". The signature is stylized with a large, sweeping loop at the end.

Primary Examiner, Art Unit 2839